



## Nordic Research Forum 2017

*The Nordic universities' role in the new Arctic*

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# **NORDIC RESEARCH FORUM 2017**

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**THE NORDIC UNIVERSITIES' ROLE IN THE NEW ARCTIC**





# NORDIC RESEARCH FORUM 2017

Title: The Nordic Universities' role in the New Arctic

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# 1. INTRODUCTION

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Climate change, industrialization and globalization have put the Arctic on the map in new ways; ways that have incited the world to reconsider the region and its populations. Reports, strategies and analyses have been developed to meet the local and global challenges that have arisen. The Arctic is entering into a new era of decision-making, which requires public awareness, new governmental structures and institutions and a global outlook. Without doubt, the Arctic societies are challenged, as are researchers in regards to grasping developments in the new Arctic reality. Consequently, the past decades have seen the establishment of new institutions and platforms for research collaboration and knowledge exchange. Also, research in, with and for a new Arctic must include a discussion about the role of the Nordic universities in the years to come. That discussion is complicated by the fact that the present-day Arctic is a region that is so culturally, politically, socially and economically diverse.



To address some of the key challenges in the Arctic today, the Nordic Research Forum 2017 brought together a large group of scholars from the Nordic countries from various disciplines to discuss the role of the Nordic universities in the new Arctic and the Nordic Arctic research agenda on global and local challenges. Universities Denmark together with University of Aalborg and AAU Arctic initiated the forum. The forum was arranged in collaboration with University of Iceland.

This report summarizes the main discussions, findings and recommendations that emerged during the forum, and concludes with a synthesis of participant contributions to a series of action points and recommendations to assist further partnership and collaboration on Nordic-Arctic university collaboration.

## 2. ORGANIZATION

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The Nordic Research Forum 2017 took place in Reykjavik at the University of Iceland on the 12<sup>th</sup> of October 2017. After the opening of the forum with welcome speeches from Rector of University of Iceland, Jon Atli Benediktsson and from Per Michael Johansen, Chairman of the Association of Nordic University Rectors Conferences (NUS) and Rector of Aalborg University, the participants divided into four theme groups. Appointed chairs hosted each theme group. The participants had the opportunity to switch groups after one hour. Most participants changed groups and this way contributed to the discussions of two themes. The groups then met in plenary where the chairs reported back and the results were discussed and key messages identified. The day was rounded off by Per Michael Johansen, Jon Atli Benediktsson and Anne Husebekk.

### 2.1 Program overview

Welcome: Jon Atli Benediktsson, Rector at University of Iceland  
Per Michael Johansen, Chairman of NUS

Introduction to theme groups: Anne Merrild Hansen, AAU Arctic

Parallel theme sessions: Grand challenges in the Arctic

Plenary: Summary of main conclusions by group chairs  
Discussion and identification of key takeaways,  
facilitated by Lill Rastad Bjørst, AAU Arctic

Round off: Anne Husebekk, Rector UiT  
Jon Atli Benediktsson, Rector UI  
Per Michael Johansen, Rector AAU

### 2.2 Themes

The theme sessions were structured according to four challenges in the Arctic. Each challenge calls for approaches and solutions involving multiple disciplines from various sciences, including engineering and natural science, social science, humanities and health.

The four themes were:

1. Sustainable business development and independent welfare communities
2. Safety (including fruitful and peaceful co-existence)
3. Climate and environmental protection
4. Education and cooperation

### 3. PROCEEDINGS

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This section presents the issues discussed and messages that emerged from the group discussions in which the scholars were asked to consider the role of the Nordic universities in the New Arctic. Groups examined this theme in the context of three guiding questions: Where are we going (development trends, current research, current position of Nordic universities)?, What is the role of the Nordic universities in Arctic research and education? What should be done (issues we need to cover, roles we need to fulfill, development opportunities we can enhance, challenges we need to overcome)? The issues discussed under each theme are presented in the following.

#### **3.1 Sustainable business development and independent welfare communities**

Chair: Anne Husebekk, UiT

This group discussed the approaches to research and education at the Nordic universities and the role and challenge of promoting sustainable business development and independent welfare communities in this regard. There was a focus on the interactions between research and practice and the group emphasized that collaboration between various partners is a particular need in relation to Arctic research, to secure that problems investigated and the solutions found are co-produced and thereby anchored in local values and needs, yet also being innovative and drawing on experiences of good practice across the North. Also to support planning and management of Arctic resource utilization, adequate evidence-based research is needed for policy formulation and implementation. When Norway started aquaculture, there was a problem related to infections in the fish and use of high amount of antibiotics to keep the salmon healthy. Researchers at Tromsø University developed vaccines to avoid the diseases and the use of antibiotics is now almost null. The other example is related to reducing CO<sub>2</sub> emissions. Smoke containing CO<sub>2</sub> from a ferro-silicium plant is added to algae in cylinders filled with seawater. The diatoms divide one to two times a day and the biomass may be the basis for healthy fish feed while CO<sub>2</sub> is consumed upon biomass production. These are examples of profitable collaboration between university and business and also examples showing that competence may be crucial for solving problems and induce change.

There was general agreement that the Arctic communities are very different and that solutions therefore need to take individual contexts into consideration. It cannot be expected that solutions are applicable everywhere in the Arctic if it is successful in some areas. The basic needs for all societies are: health care, education, culture and economic development. These topics are part of what the universities have to take into consideration when research is planned and prioritized. A main point of emphasis in the group was further that in their Arctic research, Nordic universities must be closely related to Arctic communities to ensure good living conditions for people living in the Arctic. If we look at robust and welfare communities we have to be flexible and we have to think in new ways. Robust and welfare communities have to be flexible and this calls for universities to be able to meet this need and this requires new perspectives and ways of acting in



and together with communities. Through research and teaching, universities can contribute to welfare, the economy and culture. If we come with competencies we should use them to make the societies self-sustainable and economic independent. We need to make the people strong and proud as the foundation for a healthy society.

Another theme discussed was the challenge of the capacity building in the Arctic. For education to be relevant, the universities need to follow up and improve the business development and support that profit and benefits are connected to the locations where the natural resources are extracted. The universities also have a role in promoting quality jobs, and decent workplaces through building an educated workforce in the local areas with the right skills to ensure the opportunity to work in the resource industries. Education has to be relevant, and the universities need to follow up and improve the business development to develop local competencies in order to keep the profit where the natural resources are.

*Quote from a member of the group:*

*It is important to ask what we can do for ourselves but also together.*

We as universities have a long-term perspective in contrast to politicians who work hard to be re-elected in a four-year term and investors, who most often have short-sighted return on investments in sight. As public research and teaching institutions, we are able to work across disciplines and sectors approaching complicated societal challenges in the best possible way.

In order to building and disseminate knowledge across disciplines on Nordic Arctic issues pertaining to sustainable business development and independent welfare communities (and beyond), the group proposed that the universities should create a Nordic organization of Arctic studies and a journal on Arctic studies.

### **3.2 Safety and peaceful co-existence**

Chair: Silja Bara Omarsdottir, University of Iceland

This group discussed the topic of safety in the Arctic, including fruitful and peaceful co-existence.

One of the themes discussed was the risk of disaster in the Arctic as a consequence of increased shipping. The Nordic countries are small states with limited resources, and it was stressed that the challenge of securing a sufficient search and rescue system and being able to handle an incident is oppressing. Therefore, there is amongst other an increasing need for new research and surveillance to identify innovative and adequate methods to meet this challenge. But it is not only about finding new methods, it is also about finding ways to connect existing activities and secure communication that can improve the preparedness. The ice flow is for example subject to surveillance by helicopters today and warnings could be announced to those who sail in the Arctic, which would potentially make sailing safer.

Another theme discussed was the recognition of a growing focus and allocation of funds for Arctic research by non-Arctic countries on this topic. The group found that the Nordic countries

tend to oversee the importance of prioritizing this research. As Nordic countries we are peaceful (high North, low tension), but international interests in the area and statements made such as China's snow dragon and the claims for the North Pole might create tensions in the region on longer terms. Geopolitics could this way make the region more exposed to threats why it calls for close attention.



The point was also raised, that the Arctic narrative in research and politics is dominated by a focus on the physical changes in the Arctic, particularly the melting sea ice and the derived implications on the global level, while there is less focus on the fact that the Arctic is also a home to a significant population. The group found that there is an urgent need to think about the humans as well, especially human security and safety.

The increased use of technology makes societies vulnerable as democracies can be hacked and the faith we have in the political structures might be undermined. This is threatening the social cohesion we take for granted. In the context of democratic societies, we are peaceful at the macro level, the population as a whole is well and safe but there are differences at the micro level, such as issues of domestic violence for example.

Other issues discussed included migration, minorities and ageing. A side effect of the ageing population is that we need to rely on the migrant population.

*Quote from a member of the group:*

*There are many eyes on the Arctic and the region keeps attracting attention.*

*We need to get research done, because if we don't,  
others will do it for us and we risk not having access to the knowledge we need.*

### 3.3 Climate and environmental protection

Chairs: Timo Koivurova, Arctic Centre, University of Lapland and Grete Hovelsrud, Nord University

This group initially discussed overarching issues, which the group consider essential for Arctic research in the Nordic context. Firstly it was emphasized that Nordic peoples and countries has historical ties and many things in common such as similar political structures etc. Northerners have many common values and this creates the foundation for a good research environment. The easy communication and mutual understanding between Northerners is sometimes taken for granted, but makes up an important platform for increased high profile research. The group discussed the notion about being a Nordic researcher and what our common values are. It was agreed that being a critical scientist and retain dignity were significant traits. In many of our Nordic states there are governments seeing the short-term gains from research, which is an instrumentalist approach. The group did not find this as a beneficial way to go forward.

*Quote from a member of the group:*

*When we first met as a group today, I did not know many of the others, but we discussed as friends, which I think is the key to good research.*

It was then discussed what constitutes the Arctic as a region, and how Nordic research in and about the Arctic typically takes a point of departure in urgent challenges and evolving opportunities which forces researchers to do interdisciplinary research and engaging with stakeholders. This pushes us to be on the forefront of decision-making and contribute to development rather than standing on the side and observing it. This is a very innovative approach to research and we have developed models based on experiences from working in the Arctic that could be relevant for research in other parts of the Arctic and other places as well.

This led to a discussion of what the Nordic countries could do on the Arctic research scene. In relation to climate change, we have an early warning system but we have other drivers of change that are driving the society in a more dramatic way. Regarding sustainable future pathways, obviously it is important. Even if it is fragile, we also see examples of resilience but how can we increase our efforts? In general, we discussed that the Nordic countries have research strengths, that we can learn from each other and today there is a momentum. It was stated that the Nordic universities should focus more on sharing experiences, evaluating and developing the interdisciplinary approach with educational programs and a shared research infrastructure. EU is a big influencer on these agendas (circular economy etc.) and NordForsk was seen as a great venue for funding. The Nordic Council of Ministers could be a joint forum for the Nordic universities with a polar theme and a polar year for example.

Other issues discussed were the challenges of securing research funding and the need for better coordination and collaboration between the Nordic universities regarding EU funding.



The group found that the Arctic has many realities and research results are not only relevant to the region but to many other places in the world. It is an early warning place that should be studied and we should be bolder. We need multilevel governing, as there are many challenges. We need to be very innovative but also make experiments to solve issues.

### **3.4 Education and cooperation**

Chair: Anne Merrild Hansen, Aalborg University and Ilisimatusarfik, University of Greenland

This group discussed the role of and challenges related to Arctic education. In relation to what the role of the Nordic universities is, it was emphasized that the universities education-wise hold various tasks and obligations. One is through research and collaboration, exchange and teaching, to educate the world about what the Arctic is. Another is capacity building within the Arctic both when it comes to educating the future workforce and to create opportunities for businesses to recruit local workers with an understanding of the Arctic environment and context. The Nordic universities also have an opportunity to educate role models and future teachers and ambassadors of Arctic issues. Universities also have a role to play in educating the wider public, not only students and professionals. We can do this through knowledge co-creation and through dissemination activities to make sure that learning from research is available and accessible for all, especially the Arctic people.

The group found that small universities located within the Arctic struggle with common challenges specifically related to their remote locations. The universities suffer from barriers, such as lack of mobility of students and researchers that make them more isolated. By increasing collaboration between universities in the Nordic countries there are opportunities to overcome some of these challenges together. One way is by further use of technology, such as online student project groups working between Arctic universities and digital platforms. Online courses need systems, so it takes resources to follow up, which are also human resources.

*Quote from a member of the group:*

*We already have UArctic as a common platform but we are not using it as well as we could.*

In relation to the UArctic there is a need to support administration to use this platform better. There are great opportunities for support of mobility and initiatives related to education in the Arctic under the umbrella of UArctic as a platform but it can be hard for individual universities to find the resources and capacity to gain the full potential from this institution why connecting Nordic universities to collaborate on joint programs will benefit all. Similarly there are potentials for engaging in strategic alliances under the Erasmus program to overcome the challenges related to the remoteness of the Arctic universities and to increase collaboration with other Nordic universities. Joint courses can be developed, lectures from the different universities can be recorded and made available online (through for example moodle). There are challenges though as the accreditation systems are different, so collaboration is needed to secure that the courses are accepted at all universities.

Another issue stressed by the group was the need for more flexible structures for exchange and collaboration between the Nordic universities in general. An example mentioned was development of frameworks for joint PhDs. In Norway the money follows the defense, so even if you did all of your studies at one university, then the money goes to the university where you have your defense, so we need to make the bureaucratic structure of the Nordic universities more feasible. Our institutions will be stronger if they collaborate more. The group agreed as the other groups, that the Nordic countries are already good at collaborating and that there is trust and common values, which creates a strong foundation for collaboration. The potential for increased collaboration between the universities should therefore be more smooth to gain the full potential. In relation to this it was emphasized that it would be beneficial if the work to build up systems across the universities is given merits, as it takes time to identify bureaucratic showstoppers in the system and develop the needed frames and find funds. But once in place both individual researchers, students and universities benefit. Erasmus collaboration was mentioned as an opportunity to create space and cover time for both teaching and research collaboration but the preparation and development take time and is often not giving merits at the universities today. Sharing employees between institutions is an unexplored potential and by lending out professors to the smaller (Arctic) universities and awarding merits for this, the resources may be used to create synergies to mutual benefit for the universities involved.

Finally the group discussed the importance of drawing on and developing technological solutions for collaboration. As mentioned in relation to the need for increased collaboration on curriculum development it was also stressed that technology can be used to make education more international and to build networks between students and researchers at the Nordic universities and particularly the universities in the Arctic. Group work and teaching across borders is possible today but students can also work on projects together across the universities so if/when they go abroad they already know the other universities, the systems and have a network.



## 4. CONCLUSIONS

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This section presents a summary of the highlights and key messages that emerged from the thematic debates and plenary discussions.

The main message from the forum day was that there is room for and interest in increased Nordic collaboration on Arctic research and education. There are unexplored potentials for synergies due to shared values and mutual understanding, a common history of collaboration and the Nordic countries all have Arctic areas and shared challenges in this regard.

Another key point emphasized is that the world and especially the Arctic region is changing rapidly and continuously. This calls for the universities to be flexible to be able to adapt to, address, explore and find solutions to the Arctic challenges as they alter and emerge. The universities need to think out of the box and develop new ways and increase collaboration with communities, authorities and other stakeholders to fulfill their role in the new Arctic.

### **4.1 The role of the Nordic universities in the New Arctic**

There is an important role for the universities to play in supporting development in the Arctic and promoting collaborative research on shared challenges for Arctic people. There is also a role in educating the world about what is going on in the Arctic, and in contributing to the education of the future workforce in the Arctic, this to secure capacity building for people, authorities and businesses.

### **4.2 Ways to improve Nordic - Arctic research and education**

For the Nordic universities to fulfill the various roles in the New Arctic, there is a need and potential for increased collaboration on research and education, mutual exchange and strategic and coordinated use of existing umbrella-systems such as UArctic and Erasmus. There is also a potential for collaboration on targeted applications to the EU for joint Nordic-Arctic research projects.

### **4.3 Proposal for prioritized initiatives**

To meet the challenges described in the former sections and improve Nordic-Arctic research and education, the Nordic Research Forum 2017 proposes the following initiatives presented in prioritized order:

1. Nordic Organization for Arctic Studies

To continue the discussions and develop joint applications and increase collaboration, it is proposed that a Nordic Organization for Arctic Studies is established. Arctic researchers from the Nordic universities can continue to meet every year in relation to Arctic Circle in Reykjavik. University of Iceland has offered to host this event. The Arctic Frontier in Tromsø and Arctic Dialogue in Brussels are other potential venues where representatives of such an organization could meet. We encourage NUS to discuss who should be in charge of hosting a secretariat and arranging such an organization.

2. Nordic Polar Year 2020

It is proposed that initiative is taken to set up a committee to arrange a Nordic Polar Year and apply for support from the Nordic Council of Ministers, this in order to make the Nordic Arctic research more visible both internally and on the international agenda and to the EU.

3. Nordic Journal on Arctic Research

To support knowledge sharing and to gather and disseminate research findings in the Nordic-Arctic it is proposed that a working group is appointed by NUS with representatives from the Nordic universities to investigate the opportunity for developing a high profile Nordic Journal on Arctic Research. The journal could have thematic issues on the grand challenges of the Arctic.

4. Working group on Nordic exchange, technologies and education

To investigate potentials for developing more flexible frameworks for exchange and collaboration and sharing of research it is proposed that a working group is appointed by NUS representing different Nordic universities. This group could investigate potentials for and initiate UArctic collaboration, programs for joint PhDs on Arctic Issues, address needed technologies and apply for funds to create joint courses and build networks between students in the North.







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